

**FACT SHEET FOR NPDES  
PERMIT NO. WA-005061-0**

**RICK HERNDON**

**SUMMARY**

Rick Herndon operates a small mint distillery, which distills mint for the essential oils used in flavoring of numerous products. This facility operates approximately 3 weeks each year during periods from June through October when mint crops are harvested.

Once pass through non-contact cooling water is drawn from the Roza Irrigation District's (RID) Outlook irrigation return canal. Heated condenser cooling water is discharged to a catch basin at a temperature of 43.3°C – 48.9°C (110-120°F) where it mixes with irrigation drain waters. At the catch basin outflow, the water temperature has cooled to 23.9°C-29.4°C (75-85°F). From the catch basin, water flows 1500 feet in an underground pipe to an open irrigation return channel. During the course of travel, the discharge cools to approximately 20°C at the location where the discharge enters the irrigation return channel. The Outlook Canal flows into the Sunnyside Canal which in turn flow approximately 15 miles south to the Yakima River in Grandview.

A recent inspection found that more care should be taken to reduce contamination of soils from spills and drips during fueling, lubrication of machinery and hydraulic fitting leaks. To this end the Department is requiring the Permittee to submit a Spill Prevention Plan to specifically deal with this problem.

**DRAFT**

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## **INTRODUCTION**

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has authorized the State of Washington to administer the NPDES permit program. Chapter 90.48 RCW defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the State is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix C--Response to Comments.

GENERAL INFORMATION	
Permittee: Telephone	Rick Herndon (509) 837-7913
Facility Name and Address:	Rick Herndon 3510 Scoon Road Sunnyside, WA 98944
Type of Facility:	Mint Distillery
SIC Code:	2087
Discharge #001 Location:	Latitude: 46° 22' 20" N Longitude: 120° 01' 02" W
Water Body Name and ID Number:	Waterbody Name: Yakima River via Outlook Canal Return Ditch Water Body ID Number: WA-37-1010

## BACKGROUND INFORMATION

### DESCRIPTION OF THE FACILITY

#### Industrial Process

Industrial Process: Distillation of mint oil from fresh mint.

Standard Industrial Code (SIC) 2087: flavoring concentrates

Category: Flavor Extraction

Subcategory: Steam Distillation

This facility operates approximately 3 weeks each year during periods from June through October when mint crops are harvested.

#### Discharge Outfall

Once pass through non-contact cooling water is drawn from the Roza Irrigation District's (RID) Outlook irrigation return canal. Heated condenser cooling water is discharged to a catch basin at a temperature of 43.3 - 49.9°C. where it mixes with irrigation drain waters. At the catch basin outflow, the water temperature has cooled to 23.9 – 29.4°C. From the catch basin, water flows

1500 feet in an underground pipe to an open irrigation return channel that flows approximately 7 miles to the Yakima River. The discharge cools to approximately 20°C at the location it enters the irrigation return channel.

## **PERMIT STATUS**

The previous permit for this facility was issued on April 21, 2000.

An application for permit renewal was received by the Department on July 20, 2004 and accepted by the Department on July 21, 2004.

## **SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT**

The facility last received an inspection without sampling was conducted on October 15, 2004.

During the history of the previous permit, the Permittee has remained in compliance based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department.

## **WASTEWATER CHARACTERIZATION**

The proposed non-contact cooling water is characterized for temperature increase only. No chemicals are introduced into the cooling water stream. The still is operated in a manner to prevent the 70,000 gallons per day of discharged cooling water from exceeding 120°F as it is discharged into the catch basin.

## **PROPOSED PERMIT LIMITATIONS**

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

### **TECHNOLOGY-BASED EFFLUENT LIMITATIONS**

The Code of Federal Regulations (CFR 40) promulgate wastewater effluent limitations for many industries. Discharges from mint distilleries are not addressed in these regulations. The still is operated in a manner that produces a final effluent temperature not to exceed 100 degrees F at the discharge location. Thus 100 degrees is established as the performance-based temperature limit.

The discharge at the point it enters the Outlook Canal which supplies irrigation water to the Lower Yakima Valley is at approximately 20°C. From the point of discharge the Outlook Canal flows approximately 2 miles to the Sunnyside Canal which in turn flows approximately 15 miles to the Yakima River in Grandview. The canal has fish barriers in place. In addition, given the distance to the Yakima River, it is in the Best Professional Judgment of the Department that the discharge entering Outlook irrigation return canal in relatively small volumes and for a short duration will not have a negative impact on fish habitat or water quality.

### **SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS**

The State's Water Quality Standards for Surface Waters (Chapter 173-201A WAC) stipulate that waste discharge permits shall be conditioned such that the discharge will protect existing water quality and preserve the designated beneficial uses of the State's surface waters, WAC 173-201A-060. Surface water quality-based effluent limitations may be based either on an individual waste load allocation (WLA) or on a WLA developed during a basin-wide total maximum daily loading (TMDL) study.

Although minimal change in pH is anticipated between canal intake water and that discharged, Water Quality Standards limit its range to between 6.5 and 8.5.

### **Numerical Criteria for the Protection of Aquatic Life**

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

### **Numerical Criteria for the Protection of Human Health**

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

### **Narrative Criteria**

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

### **Antidegradation**

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the waterbody. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall be protected. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.



The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this waterbody in the proposed permit. The discharges authorized by this permit should not cause a loss of beneficial uses.

### **Description of the Receiving Water**

The Outlook irrigation return canal that receives the facility discharge flows approximately 2 miles before entering the Sunnyside Canal, which flows approximately 15 miles before entering the Yakima River. The Yakima River is designated Class A receiving water. Characteristic uses include the following: water supply (domestic, industrial, agricultural); stock watering; fish migration; fish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

Ecology's 1998 and 2002 list of impaired and threatened waterbodies – the 303(d) list – shows the lower Yakima River listed for the following pollutants:

4,4'-DDD; 4,4'-DDE; arsenic; cadmium; copper; DDT; dieldrin; dissolved oxygen; endosulfan; fecal coliform; instream flow; mercury; PCB-1254; PCB-1260; pH; temperature and turbidity.

### **Whole Effluent Toxicity**

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

Toxicity caused by unidentified pollutants is not expected in the effluent from this discharge as determined by the screening criteria given in Chapter 173-205 WAC. Therefore, no whole effluent toxicity testing is required in this permit. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

## **Human Health**

The State's Water Quality Standards now include 91 numerical health-based criteria that must be considered in NPDES permits. The EPA in its National Toxics Rule promulgated these criteria for the State.

The Department has determined that the Permittee's discharge is unlikely to contain chemical pollutants regulated for human health. The Permittee's discharge will be re-evaluated for impacts to human health at the proposed permit's renewal.

A reasonable potential determination of the Permittee's discharge to cause an exceedance of the State's Water Quality Standards for Surface Waters was evaluated, as required by 40 CFR 122.44(d), using the procedures given in the *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001) and the Department's *Permit Writer's Manual* (Ecology Publication 92-109, July, 1994). The determination indicated that the discharge has no reasonable potential to cause a violation of surface water quality standards, thus effluent limits based on human health are not warranted.

## **Sediment Quality**

The Department has promulgated Sediment Management Standards (Chapter 173-204 WAC) to protect aquatic biota and human health. Those standards stipulate that the Department may require dischargers to evaluate the potential for their wastewater to cause a violation of the Sediment Management Standards.

The Department has determined through a review of the submitted final effluent characteristics that the Permittee's discharge has no reasonable potential to violate the Sediment Management Standards.

## **GROUND WATER QUALITY LIMITATIONS**

The Permittee has no discharge to ground and, therefore, no limitations are required based on potential effects on ground water.

## **MONITORING REQUIREMENTS**

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Special Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

### **LAB ACCREDITATION**

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*.

## **OTHER PERMIT CONDITIONS**

### **REPORTING AND RECORDKEEPING**

The provisions of Special Condition S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

### **SPILL PLAN**

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080. The proposed permit requires the Permittee to develop and implement a Spill Plan for preventing the accidental release of pollutants to State waters and for minimizing damages if such a spill occurs.

The Permittee has developed a plan for preventing the accidental release of pollutants to State waters and for minimizing damages if such a spill occurs. During a recent site visit the Department has determined that small amounts of fuel and/or lubricants have been spilled to ground. This is evidenced by the presence of stains on the soil below the fueling apparatus. The proposed permit requires the Permittee to update this plan with special attention to areas where repeated spills or droplets from fueling nozzles, lubricant leaks and leaking hydraulic fittings can accumulate on the ground and submit it to the Department.

## **SOLID WASTE**

Solid waste generated at this facility consists of mint waste or “slugs” that are produced during the distillation process. This material is applied to fields on facility property as fertilizer and soil amendment.

## **GENERAL CONDITIONS**

General Conditions are based directly on State and Federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

## **PERMIT ISSUANCE PROCEDURES**

### **PERMIT MODIFICATIONS**

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended State or Federal regulations.

### **RECOMMENDATION FOR PERMIT ISSUANCE**

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued for five (5) years.

## **REFERENCES FOR TEXT AND APPENDICES**

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Washington State Department of Ecology.

Laws and Regulations( <http://www.ecy.wa.gov/laws-rules/index.html> )  
Permit and Wastewater Related Information  
(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(E2). (Cited in EPA 1985 op.cit.)

## APPENDIX A -- PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on date and date in name of publication to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on date, in name of publication to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator  
Department of Ecology  
Central Regional Office  
15 West Yakima Avenue, Suite 200  
Yakima, WA 98902

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, 509/457-7105, or by writing to the address listed above.

This permit and fact sheet were written by Richard Marcley.

## APPENDIX B -- GLOSSARY

**Acute Toxicity**--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

**AKART**-- An acronym for “all known, available, and reasonable methods of prevention, control and treatment”.

**Ambient Water Quality**--The existing environmental condition of the water in a receiving waterbody.

**Ammonia**--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

**Average Monthly Discharge Limitation** --The average of the measured values obtained over a calendar month's time.

**Best Management Practices (BMPs)**--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

**BOD<sub>5</sub>**--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD<sub>5</sub> is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

**Bypass**--The intentional diversion of waste streams from any portion of a treatment facility.

**Chlorine**--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

**Chronic Toxicity**--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

**Clean Water Act (CWA)**--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

**Compliance Inspection - Without Sampling**--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

**Compliance Inspection - With Sampling**--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

**Composite Sample**--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

**Construction Activity**--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

**Continuous Monitoring** --Uninterrupted, unless otherwise noted in the permit.

**Critical Condition**--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a waterbody is low, thus, its ability to dilute effluent is reduced.

**Dilution Factor**--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.



**Engineering Report**--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

**Fecal Coliform Bacteria**--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a waterbody can indicate the recent release of untreated wastewater and/or the presence of animal feces.

**Grab Sample**--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

**Industrial Wastewater**--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

**Major Facility**--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Maximum Daily Discharge Limitation**--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

**Method Detection Level (MDL)**--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

**Minor Facility**--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Mixing Zone**--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in State regulations (Chapter 173-201A WAC).

**National Pollutant Discharge Elimination System (NPDES)**--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

**pH**--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

**Quantitation Level (QL)**-- A calculated value five times the MDL (method detection level).

**Responsible Corporate Officer**-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

**Technology-based Effluent Limit**--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

**Total Suspended Solids (TSS)**--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

**State Waters**--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the State of Washington.

**Stormwater**--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface waterbody, or a constructed infiltration facility.

**Upset**--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

**Water Quality-based Effluent Limit**--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

**APPENDIX C -- RESPONSE TO COMMENTS**